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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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WOOD, KEVIN S				
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2874				

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DATE MAILED: 11/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,303

Applicant(s)

GARRETT ET AL.

Examiner

Kevin S Wood

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 28-38 is/are rejected.
- 7) ☒ Claim(s) 15-27 and 39-41 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 0803.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: *Ben Keay*

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-14 and 28-38 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,275,623 to Brophy et al.

Referring to claim 1, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses an optical apparatus, including: an input port (16), providing a multi-wavelength optical signal; a polarization-separating element (32) that decomposes the multi-wavelength optical signal into first and second polarization components; a polarization-rotating element (34) that rotates a polarization of the second polarization component by approximately 90-degrees; a wavelength-disperser (40) that separated the first and second polarization components by wavelength into first and second sets of optical beams, respectively; and an array of optical power sensors (60), positioned to receive the first and second sets of optical beams. See Fig. 1-10 of the reference, along with their respective portions of the specification.

Referring to claims 2, 3, and 6, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses an auxiliary polarization-rotating element (44) that is a half-wave plate, such that the first and second sets of optical beams are polarized in two orthogonal directions upon impinging on the array of optical power sensors. See Fig. 1 of the reference, along with its respective portions of the specification.

Referring to claims 4 and 5, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses an auxiliary polarization-rotating element (44) is configured such that the second set of optical beams undergoes a rotation in polarization of approximately 90-degrees. See col. 5, lines 47-49.

Referring to claim 7, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses that the polarization-separating element comprises an element selected from the group consisting of polarizing beam splitters and birefringent beam displacers. See col. 4, lines 55-65.

Referring to claim 8, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses that polarization-rotating element (30) is a half-wave plate. See Fig. 1 of the reference, along with its respective portions of the specification.

Referring to claim 9, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses the array of optical power sensors (60) comprises an array of diodes. See col. 6, lines 50-53.

Referring to claim 10, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses that the wavelength-disperser comprises an element

that may be a diffraction grating, a transmissive grating or a dispersing prism. See col. 5, lines 4-15.

Referring to claims 11 and 12, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses a beam-focuser (42) for focusing the first and second sets of optical beams into corresponding focused spots.

Referring to claim 13, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses that the input includes a collimator (24). See Fig. 1, along with its respective portion of the specification.

Referring to claim 14, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses an optical apparatus, including: an input port (16), providing a multi-wavelength optical signal; a polarization-separating element (32) that decomposes the multi-wavelength optical signal into first and second polarization components; a polarization-rotating element (34) that rotates a polarization of the second polarization component by approximately 90-degrees; a wavelength-disperser (40) that separated the first and second polarization components by wavelength into first and second sets of optical beams, respectively; and an array of optical power sensors (60), positioned to receive the first and second sets of optical beams; wherein the optical apparatus further comprises a modulation assembly (50), which is adapted to modulate the first and second sets of optical beams prior to impinging onto the array of optical power sensors. See Fig. 1-10 of the reference, along with their respective portions of the specification.

Referring to claim 28, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses that the polarization-separating element comprises an element selected from the group consisting of polarizing beam splitters and birefringent beam displacers. See col. 4, lines 55-65.

Referring to claim 29, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses that polarization-rotating element (30) is a half-wave plate. See Fig. 1 of the reference, along with its respective portions of the specification.

Referring to claim 30, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses the array of optical power sensors (60) comprises an array of diodes. See col. 6, lines 50-53.

Referring to claim 31, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses that the wavelength-disperser comprises an element that may be a diffraction grating, a transmissive grating or a dispersing prism. See col. 5, lines 4-15.

Referring to claim 32, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses that the input includes a collimator (24). See Fig. 1, along with its respective portion of the specification.

Referring to claims 33 and 34, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses a beam-focuser (42) for focusing the first and second sets of optical beams into corresponding focused spots.

Referring to claim 35, Brophy et al. discloses all the limitations of the claimed method. Brophy et al. discloses a method, including: providing a multi-wavelength

optical signal; decomposing the multi-wavelength optical signal into first and second polarization components; rotating a polarization of the second polarization component by approximately 90-degrees; separating the first and second polarization components by wavelength into first and second sets of optical beams; and impinging the first and second sets of optical beams onto an array of optical power sensors (60). See Fig. 1-10 of the reference, along with their respective portions of the specification.

Referring to claims 36 and 37, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses the rotating a polarization of the first or second set of optical beams by approximately 90-degrees within a polarization-rotating element (44) prior to impinging the first or second set of optical beams onto the array of optical powers sensors (60). See col. 5, lines 47-49.

Referring to claim 38, Brophy et al. discloses all the limitations of the claimed invention. Brophy et al. discloses the modulating of the first and second sets of optical beams using the modulator (50). See Fig. 1, along with its respective portion of the specification.

Allowable Subject Matter

3. Claims 15-27 and 39-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. The following is a statement of reasons for the indication of allowable subject matter:

Referring to claims 14-19, the prior art does not disclose the combination of all the limitations of the claimed invention. Specifically, the prior art does not disclose that the modulation assembly is adapted to cause the first and second sets of optical beams to impinge onto the array of optical power sensors in a time-division-multiplexed sequence.

Referring to claims 20-24, the prior art does not disclose the combination of all the limitations of the claimed invention. Specifically, the prior art does not disclose the modulation assembly is adapted to cause the first and seconds sets of optical beams to carry distinct dither modulation signals upon impinging onto the array of optical power signals.

Referring to claim 25, the prior art does not disclose the combination of all the limitations of the claimed invention. Specifically, the prior art does not disclose the modulation assembly comprises a beam-chopper.

Referring to claim 26, the prior art does not disclose the combination of all the limitations of the claimed invention. Specifically, the prior art does not disclose that the modulation assembly is in optical communication with the polarization-separating element along with the polarization-rotating element and the wavelength-disperser, thereby controlling the first and second polarization components.

Referring to claim 27, the prior art does not disclose the combination of all the limitations of the claimed invention. Specifically, the prior art does not disclose that the modulation assembly is in optical communication with the wavelength-disperser and the

array of optical power sensors, so as to control the first and second sets of optical beams.

Referring to claims 39, the prior art does not disclose the combination of all the limitations of the claimed method. Specifically, the prior art does not disclose first and second sets of optical beams are modulated to impinge onto the array of optical power sensors in a time-division-multiplexed sequence.

Referring to claims 40 and 41, the prior art does not disclose the combination of all the limitations of the claimed method. Specifically, the prior art does not disclose the first and second sets of optical beams are modulated to carry distinct dither modulation signals upon impinging onto the array of optical power signals.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S Wood whose telephone number is (703) 605-5296. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 307-0956.

KSW

Ben Healy